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SMITHSONIAN
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LIBRARIES

Museum and University Data, Program and Information Exchange

A TEST OF GYPSY

Harriet Meadow recently summarized, in MUDPIE 13, the GYPSY program for information retrieval. Now a publication is available that describes the use of GYPSY in a museum-type research problem, so one can actually see the results of its use. The paper, entitled "Permian Palynology of North America and Some Associated Problems," is by L. R. Wilson, J. L. Morrison, and W. E. Reid. It is monograph no. II of the University of Oklahoma Information Science Series, published in 1969. To save you the trouble we had, in case you want to look at it, the Smithsonian Library could not locate a copy in Washington, even at the Library of Congress. We borrowed it on interlibrary loan directly from the University, where it is catalogued under the number qZ/699/.A105/no.2.

The data base used is the information contained in 263 palynological taxonomic papers, which produced 3987 records. A demonstration of the computer use was based on the Permian records, because the authors consider those records complete in their file. Retrieval consists of citations by author, date, title, publication, location of hard copy, geography, stratigraphy, taxonomy, and floral assemblages. No effort was made to correct or augment the data in the original papers because of a fear that errors would be magnified, nor have any of the original taxonomic identifications been changed. The authors state (p. 139): "The demonstration was intended to show how in-depth studies can be made with GIPSY in the field of palynology. This is shown by the following investigation and examination of subset information described in the demonstration: (1) retrieval of all Permian palynological literature from the data base; (2) separation of the literature into that of North America and that exclusive of North America; (3) a floristic analysis of North American Permian palynomorph assemblages; (4) a search of literature exclusive of North America for distribution and biotic associations of the genus Lueckisporites; (5) investigate the taxonomic status of species originally assigned to Lueckisporites or transferred to it; and (6) investigate the taxonomic history of a species by search of the trivial name in literature." Direct computer readouts are published to show how all these things are recovered.

It was amusing to note that, although the computer invariably spells "Permian" correctly, the authors spell it wrong in every table from p. 41 to p. 50. Also, the distribution of the genus mentioned on p. 51 is not on p. 44, as stated in the note, but on p. 45.--JAP

LIST 1971

As almost anything in the way of names today, the title of this new book is itself an acronym, standing for "Library and Information Science Today, 1971." It has been published by Science Associates/International, Inc., 23 East 26th St., New York, N. Y., 10010. It is based on a compilation made at the University of Maryland, under the direction of Paul Wasserman. It is described as an attempt "to identify and to characterize the most exciting, interesting and prototypal work underway in the field" of library and information science. They found a total of 180 projects, with over 1500 participants. Similar volumes for each year are planned, and the editors are anxious to learn of projects not yet included. Any MUDPIE reader who wishes to get his work listed should write to: Dr. Paul Wasserman, LIST Project, School of Library and Information Services, University of Maryland, College Park, MD 20742.

In going over the list of 800 projects, I spotted quite a few that will be of interest to MUDPIE readers. I am listing them below with the name of the principal investigator, his address, the title of the project, and the page in LIST 1971 on which the summary of the project is printed. If a project is of interest to you, you should get a copy of the book and read the paragraph concerning it. My list should be regarded as highly selective, perhaps representative, but certainly not exhaustive.--JAP.

Brown, W.H., Coll. of Educ., Moray House, Edinburgh, EH8 8AQ, U.K. "Botanical Literature in Standard Classification Schemes" (p. 51).

Jackson, D.M., Dept of Computer Sci., Cornell Univ., Ithaca, N. Y. 14850. "Study of Classification Techniques" (p. 53).

Jardine, N., King's Coll. Res. Cent., Univ of Cambridge, England. " Use of Computers in Classification and Diagnosis" (p. 53).

Scheele, M., Postfach 121, D-6407, Schlitz/Hessen, West Germany. "Documentation of German Journals in Biology" (p. 56).

Kubach, I., Gmelin Inst., Varrentrappstrasse 47, 6000 Frankfurt am Main 13, West Germany. "Documentation of Mineralogy" (p. 65).

Bargeski, A. M., National Oceanographic Data Center, Wash., D. C. 20390. "National Oceanographic Data Center (NODC)" (p. 73).

Ellin, E., M.C.N., 27 W. 53rd St., New York, N Y 10019. "Museum Computer Network" (p. 77).

Ferguson, S. A., Ontario Dept of Mines, Geol. Branch, Toronto, Ontario. "Processing of Ontario Mineral Deposits Data" (p. 77).

Hodge, W. T., ESSA, Federal Bldg., Asheville, NC 28801. "ENDEX-Environmental Data Index" (p. 78).

Gralewska, A., Mining Dept., Univ. of London, Prince Consort Rd., London, S W 7, England. "Rock Mechanics Information Retrieval System" (p. 89).

Gschneidner, K.A., Inst for Atomic Res., Iowa St Univ., Ames, IA 50010. "Rare-Earth Information Center" (p. 89).

Perron, J.-M., Centre de Documentation, Universite Laval, Quebec, 10, Canada. "Documentation System for Entomological Documents" (p. 92).

Van Gelder, R. G., Amer. Mus. Nat. Hist., Cent. Park W at 79th, New York, NY 10024. "Citation Retrieval Service-Recent Literature of Mammalogy" (p. 95).

Parkins, P. V., Biol. Abstr., 2100 Arch St., Philadelphia, PA 19103. "Establishment of Mutual Project for Preparation of Bibliography of Ichthyology" (p. 113).

Atz, J. W., Amer. Mus. Nat. Hist., Cent. Park W at 79th, New York, NY 10024. "Establishment of an Annual Index and A Bibliographic Service Covering the Ichthyological Literature of the World (Dean Bibliography of Fishes" (p. 128).

Bryan, E. H., Bishop Mus., P.O.Box 6037, Honolulu, Hawaii 96818. "Directory of Vertebrate Animals in the Pacific Area" (p. 129).

Ledley, R. S., NBRF, 11200 Lockwood Dr., Silver Spring, MD 20901. "FIDACSYS (FIDAC System)" (p. 148). A system of analysis of chromosome karyograms.

Yerke, T. B., U.S.D.A., P.O.Box 245, Berkeley, CA 94701. "FAMULUS: A Computer-Based System for Augmenting Personal Documentation Efforts" (p. 175).

INFORMATION SYSTEMS SURVEY
INDEX TO PLANT CHROMOSOME NUMBERS

The Plant Chromosome Numbers project is designed to keep track of publication of new counts of chromosome numbers in the world's botanical literature and to bring them together into a consolidated annual listing. Journals are monitored by a group of about 15 volunteer botanists from the United States, Canada, the Netherlands, New Zealand, Japan and Denmark. Each covers a specific list of journals.

When the botanist monitoring a journal finds chromosome number data, he extracts the data and submits it with a bibliographic reference for editing, collation and typing. The data include the identification of the species and the chromosome count.

After all data for one year have been edited, organized and formatted, they are typed for publication by the Department of Agriculture in Ottawa, Canada, using a terminal linked via telephone line to a general purpose, time-sharing computer. The system being used at present for data capture is the IBM Datatext. This method of data conversion provides both a machine readable file and print-outs in final form ready for publication. The print-outs are sent to Utrecht for publication by the International Bureau for Plant Taxonomy and Nomenclature of the International Association for Plant Taxonomy. It is hoped that data for successive years can be merged by computer to produce cumulative indexes.--Harriet R. Meadow.

INFORMATION HANDLING IN THE LIFE SCIENCES

The Council on Biological Sciences Information of the Division of Biology and Agriculture, National Research Council, published a booklet with the title above in February, 1970. A few copies of it are available on a first come first served basis from MUDPIE (Division of Reptiles and Amphibians, National Museum of Natural History, Wash., D. C. 20560).

DIRECTORY OF COMPUTER PROGRAMS

Science Associates/International, Inc., 23 East 26th St., New York NY 10010, has announced the first issue of their new "COMPUTER PROGRAMS IN SCIENCE AND TECHNOLOGY (CPST)", which will appear in the first quarter of 1971. It is designed to "provide a much-needed bridge between the computer specialist and the scientist seeking a computer solution to a problem." The cost of the publication is going to make that bridge a tough one to cross, however. The annual subscription for four issues is $95.00 (reduced to $65.00 if you submitted a program for inclusion). I will try to obtain an early copy and see how much there is of interest to MUDPIE.--JAP.

NOTE CONCERNING ENCLOSED REPRINTS

I am enclosing with this issue of MUDPIE two recent publications on computer use in museum work. Please either pass them on to someone who can use them or send them back to me if you do not want them yourself. The paper on a generalized data format is a beginning, we hope, of a way for all of us to share taxonomic information through common storage. Programs in both BASIC and Fortran have been prepared to permit the use of this standard matrix by taxonomists. The one in BASIC is available from me, and Larry Morse, Dept. of Biology, Harvard, can provide the one in Fortran. MUDPIE no 9, p. 3, gives a program package set up for use with this matrix. We would all be glad to give any help we can to interested people.

The second paper, in the Smithsonian Contributions to Zoology, is designed to make an introduction into time-shared computing practically painless for the complete novice--which seems to be the characteristic nature of museum people in general. If one has become accustomed to using Simpson et al. in his work the little collection of programs should facilitate his adapting to the computer in the immediate future. I would be most interested in any responses you might note concerning this collection.--JAP.

SMITHSONIAN INSTITUTION INFORMATION SYSTEMS INNOVATIONS

Under the above title, the Information Systems Division of the Smithsonian Institution has begun to publish an irregular series of papers on the use of computers in museums. The following statement appears on the cover page:

"These bulletins are distributed by the Smithsonian Institution to acquaint the reader with programs specifically designed to solve the problems of museums and herbaria. If these bulletins prevent duplicate developments to solve similar problems, they will have accomplished their purpose. To this end, museologists are invited to use these bulletins to publicize their computer techniques. For additional copies and to submit material for publication, write: The Director, Information Systems Division, Smithsonian Institution, Washington, D. C., 20560."

Five numbers have been issued to date in this new series. They are as follows:

Vol. 1, no. 1: The Smithsonian Institution Information Retrieval (SIIR) System for Biological and Petrological Data, by Reginald Creighton and Richard King.

Vol. 1, no. 2: Automation of the Catalogue of American Portraits, by V. C. Purdy and J. J. Crockett.

Vol. 1, no. 3: Recent Advances in Source Data Automation, by N. J. Suszynski.

Vol. 2, no. 1: An Approach to the Geography Problem in Museums, by D. Piacesi and R. A. Creighton.

Vol. 2, no. 2: Cluster Analysis for the Biological and Social Sciences, by H. D. Roth.

RECENT LITERATURE

Anderson, S. &R. G. Van Gelder. The history and status of the literature of mammalogy. Bioscience, 20, 1970: 949-957.

Cole, A. J. An iterative approach to the fitting of trend surfaces. Computer Contribution 37, State Geological Survey, University of Kansas, 1969: 1-27.

Gateley, W. Y. & G. C. Bitter. BASIC for beginners. McGraw-Hill, New York, 1970, xv + 152. [An attempt to improve on the give-away manuals for BASIC provided by time-share computer firms. It is not successful.]

Jahoda, G. Information storage and retrieval systems for individual researchers. Wiley-Interscience, New York, 1970: xiii + 135. (This is an exhaustive look at all kinds of desk-top techniques for keeping track of your research literature. Details and examples are given for conventional indexes, coordinate indexes, KWIC indexes, citation indexes, punch-cards, peek-a-boo cards, Termatrex, edge-notched cards, etc.)

Kazmier, L. J. & A. S. Philippakis. Fundamentals of EDP and FORTRAN--a self-instructional manual. McGraw-Hill, New York, 1970, xii +]60. [The novice will be introduced to FORTRAN programming but is unlikely to develop any competence in it using the "self-instruction" style of this book. Although self-instruction manuals such as Honeywell's "FORTRAN IV Programmed Text" are valuable teaching aids, Kazmier and Philippakis dilute the value by over-writing the questions and preventing the reader from thinking and working.--GZ]

Lee, P. J. Fortran IV programs for canonical correlation and canonical trend-surface analysis. Computer Contribution 32, State Geological Survey, University of Kansas, 1969: 1-46.

Manning, W. A. & R. S. Garnero. A FORTRAN IV problem solver. McGraw-Hill, New York, 1970, viii + 167. [A programming primer aimed primarily at business management. The approach is extremely elementary. The reader is halfway through the section on instruction before he is required to write a simple program. The novice programmer will have difficulties returning to the text discussion to correct his programming errors.--GZ]

Merriam, D. F.., Editor. Symposium on computer applications in petroleum exploration. Computer Contribution 40, State Geological Survey, University of Kansas, 1969: 1-41.

Mullin, J. K. COQAB: a computer optimized question asker for bacteriological specimen identification. Mathematical Biosciences, 6, 1970: 55-66.

Namkoong, G. & J. Graham. A machine storage and retrieval system for personal files of scientific literature. Bioscience, 20, 1970: 994.

Slack, W. Computer-based interviewing system dealing with nonverbal behavior as well as keyboard response. Science, 171, 1970: 84-87.

Vance, D. Museum Data Banks. Information Storage and Retrieval, vol. 5, 1970: 203-211.

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